

In the Specification

On page 15, beginning on line 15, please substitute the following paragraph for the corresponding paragraph already on file.

It is important to realize that transistor Q1 is arranged as a common base amplifier and, as such, acts as a constant voltage source of 2.3 volts (3 volts bias – 0.7 volts base to emitter drop). Each of Resistors R0, R1A, and R1B, are preferably 50 ohms in value (or otherwise matched in value to the impedance of cable C1). The value of RL is determined by output interface requirements, but for this example is set at 40 ohms. Referring to FIGURE 5, and for purposes of explanation only, assume a collector current of 38 ma through RL and note that there is zero current flowing through resistor R1B. Thus, substantially all of the 38 ma must be flowing through R1A, as shown. Further, assume that the constant current source produces 30 ma. Because the current through R1A must be the sum of the current through R0 and the current from the constant current source, then it follows that that current through R0 must be 8 ma (i.e., 38 ma – 30 ma). Multiplying 50 ohms (R0) by 8 ma yields 400 mv. Multiplying 50 ohms (R1A) by 38 ma yields 1900 mv. The sum of these two voltages correctly adds up to ~~2.48~~ 2.3 volts, the voltage value at the emitter. The resting current flow causes a voltage of ~~3.1~~ 2.48 volts to be developed at the collector of transistor Q1. Since the trigger combiner transceiver is identical to the just-described instrument transceiver, all current and voltage values in both circuits are the same when both circuits are at rest.